

Appl. No. 10/692,174
Amdt. dated September 1, 2005
Reply to Office Action of July 1, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-25 (canceled)

Claim 26 (Previously presented): A test apparatus for testing an electronic device, said apparatus comprising:

a substrate; and

a plurality of probes, each said probe comprising palladium and further comprising:

a contact tip disposed to make a temporary, pressure based connection with a terminal of said electronic device during testing of said electronic device;

a base secured to said substrate; and

a body disposed at least in part away from said substrate, wherein said body is attached to said base and said tip is attached to said body.

Claim 27 (Previously presented): The test apparatus of claim 26, wherein said probe comprises a palladium cobalt alloy.

Claim 28 (Previously presented): The test apparatus of claim 26, wherein said probe comprises a palladium rhodium alloy.

Claim 29 (Previously presented): The test apparatus of claim 26, wherein said probe comprises a palladium tungsten alloy.

Claim 30 (Canceled)

Claim 31 (Previously presented): The test apparatus of claim 26, wherein said tip comprises palladium.

Appl. No. 10/692,174
Amdt. dated September 1, 2005
Reply to Office Action of July 1, 2005

Claim 32 (Previously presented): The test apparatus of claim 26, wherein said tip comprises a palladium cobalt alloy.

Claim 33 (Previously presented): The test apparatus of claim 26, wherein said tip is integrally formed with said body.

Claim 34 (Previously presented): The test apparatus of claim 26, wherein a majority of said body comprises palladium.

Claim 35 (Withdrawn): The test apparatus of claim 26, wherein said base and said body are integrally formed.

Claim 36 (Previously presented): The test apparatus of claim 26, wherein said body comprises a beam that is structurally distinct from said base.

Claim 37 (Previously presented): The test apparatus of claim 26, wherein said contact structure is resilient.

Claim 38 (Previously presented): The test apparatus of claim 26, wherein said probe comprises a plurality of layers of material, wherein at least one of said layers comprises palladium.

Claims 39 and 40 (Canceled)

Claim 41 (Previously presented): The test apparatus of claim 26, wherein said test apparatus is a probe card assembly.

Appl. No. 10/692,174
Amdt. dated September 1, 2005
Reply to Office Action of July 1, 2005

Claim 42 (Previously presented): A test apparatus for testing an electronic device, said test apparatus comprising:

a substrate; and

a plurality of probes attached to said substrate and comprising contact tips disposed to make temporary, pressure based connections with terminals of said electronic device to be tested, wherein each said probe comprises palladium.

Claim 43 (Previously presented): The test apparatus of claim 42, wherein each said probe comprises a palladium cobalt alloy.

Claims 44-47 (Canceled)

Claim 48 (Previously presented): The test apparatus of claim 42, wherein said test apparatus is a probe card assembly.

Claims 49-72 (Canceled)

Claim 73 (Previously presented): The test apparatus of claim 26, wherein said body and said base are distinct structures.

Claim 74 (Previously presented): The test apparatus of claim 26, wherein said body and said tip are distinct structures.

Claim 75 (Previously presented): The test apparatus of claim 74, wherein said body and said base are distinct structures.

Claim 76 (Previously presented): The test apparatus of claim 26, wherein each probe is configured to contact one of said terminals of said electronic device such that no two probes contact a same terminal of said electronic device.

Appl. No. 10/692,174
Amdt. dated September 1, 2005
Reply to Office Action of July 1, 2005

Claim 77 (Previously presented): The test apparatus of claim 76, wherein said base is attached to said body at a first end of said body and said tip is attached to said body at a second end of said body, and said second end of said body is moveable such that said second end of said body deflects upon contact with a terminal of said electronic device.

Claim 78 (Previously presented): The test apparatus of claim 26, wherein said palladium is electroplated.

Claim 79 (Previously presented): The test apparatus of claim 42, wherein each said probe further comprises a post attached to a terminal on said substrate and a body, said body connecting said post and said tip.

Claim 80 (Previously presented): The test apparatus of claim 79, wherein said post and said body are distinct structures attached one to another.

Claim 81 (Previously presented): The test apparatus of claim 80, wherein said tip and said body are distinct structures attached to one another.

Claim 82 (Previously presented): The test apparatus of claim 79, wherein said tip and said body are distinct structures attached to one another.

Claim 83 (Previously presented): The test apparatus of claim 79, wherein each probe is configured to contact one of said terminals of said electronic device such that no two probes contact a same terminal of said electronic device.

Claim 84 (Previously presented): The test apparatus of claim 79, wherein said post is attached to said body at a first end of said body and said tip is attached to said body at a second end of said body, and said second end of said body is moveable such that said second end of said body deflects upon contact with a terminal of said electronic device.

Appl. No. 10/692,174
Amdt. dated September 1, 2005
Reply to Office Action of July 1, 2005

Claim 85 (Previously presented): The test apparatus of claim 42, wherein said palladium is electroplated.

Claim 86 (New): The test apparatus of claim 27, wherein contact tips of said probes are disposed to contact terminals of said electronic device having a pitch of less than five mils spacing between adjacent ones of said terminals.

Claim 87 (New): The test apparatus of claim 26, wherein contact tips of said probes are disposed to contact terminals of said electronic device having a pitch of less than five mils spacing between adjacent ones of said terminals.

Claim 88 (New): The test apparatus of claim 26, wherein said electronic device comprises a semiconductor die, and contact tips of said probes are disposed to make temporary contact with a plurality of terminals of said semiconductor die.

Claim 89 (New): The test apparatus of claim 88, wherein said tips are disposed to make temporary contact simultaneously with a plurality of terminals of a plurality of semiconductor dies.

Claim 90 (New): The test apparatus of claim 89, wherein said plurality of dies compose an unsingulated semiconductor wafer.

Claim 91 (New): The test apparatus of claim 88, wherein said terminals are bond pads of said semiconductor die.

Claim 92 (New): The test apparatus of claim 26, wherein said terminal is flat.

Claim 93 (New): The test apparatus of claim 43, wherein contact tips of said probes are disposed to contact terminals of said electronic device having a pitch of less than five mils spacing between adjacent ones of said terminals.

Appl. No. 10/692,174
Amdt. dated September 1, 2005
Reply to Office Action of July 1, 2005

Claim 94 (New): The test apparatus of claim 42, wherein contact tips of said probes are disposed to contact terminals of said electronic device having a pitch of less than five mils spacing between adjacent ones of said terminals.

Claim 95 (New): The test apparatus of claim 42, wherein said electronic device comprises a semiconductor die, and contact tips of said probes are disposed to make temporary contact with a plurality of terminals of said semiconductor die.

Claim 96 (New): The test apparatus of claim 95, wherein said tips are disposed to make temporary contact simultaneously with a plurality of terminals of a plurality of semiconductor dies.

Claim 97 (New): The test apparatus of claim 96, wherein said plurality of dies compose an unsingulated semiconductor wafer.

Claim 98 (New): The test apparatus of claim 95, wherein said terminals are bond pads of said semiconductor die.

Claim 99 (New): The test apparatus of claim 42, wherein said terminal is flat.